

REMARKS

Claims 1-4, 6, 8, 9, 11, 12, 14-28, 30, 32, 33, 35, 36, 38-52, 54, 56, 57, 59, 60, 62-82 and 88-153 have been examined and are all the claims pending in the application. Applicants thank the Examiner for indicating that claims 16, 17, 40, 41, 64, 65, 73, 75-82, 89, 90 and 149-153 are allowed. Applicants also thank the Examiner for indicating that claims 3, 4, 6, 8, 9, 11, 12, 14, 27, 28, 30, 32, 33, 35, 36, 38, 39, 51, 52, 54, 56, 57, 59, 60, 62, 63, 98-106, 116-124 and 134-142 would be allowable, if rewritten into independent form, including all of the limitations of the base claim and any intervening claims.

Applicants add new claims 154-167, and Applicants amend claims 1, 4, 6, 8-9, 15-17, 25, 28, 30, 32-33, 39, 49, 52, 54, 56-57, 72-73, 75-76, 78-82, 88, 100-103, 105, 118-121, 123, 136-138, 139, 141 and 149-150. Furthermore, Applicants cancel claims 14, 38, 62-63, 89-90, 106, 124 and 142 without prejudice or disclaimer.

Applicants thank the Examiner for considering all the references cited in (modified) PTO Form 1449, submitted with Applicants' Information Disclosure Statement of November 15, 2002.

Rejection of Claims 1, 18-25, 42-49, 66-72, 74, 88, 91-96, 107-114, 125-132 and 143-148

The Examiner has rejected claims 1, 18-25, 42-49, 66-72, 74, 88, 91-96, 107-114, 125-132 and 143-148 (incorrectly citing claims 2, 7, 26, 31, 50, 97, 115 and 133) under 35 U.S.C. § 102(e) as allegedly being anticipated by *previously cited* U.S. Patent No. 5,896,368 (hereinafter Dahlman). Applicant respectfully notes that claims 7 and 31 have been cancelled in the Amendment filed November 15, 2002. Additionally, claims 2, 26, 50, 97, 115 and 133 are

addressed in the rejection on page 6, paragraph 4, of the Office action. Accordingly, Applicants response to this rejection does not address these incorrectly cited claims.

Applicants thank the Examiner for responding to Applicants' arguments set forth in Applicants' Amendment under 37 C.F.R. §1.111, filed November 15, 2002. However, Applicants respectfully disagree with the Examiner's interpretation of Dahlman and the grounds of rejection. In particular, Applicants provide the following reply to the Examiner's response to arguments, set forth on page 7, paragraph 5 of the final Office action.

The Examiner alleges that the system of Dahlman uses the "compressed mode transmission" to perform reliable handover candidate evaluation, citing col. 7, lines 59-67. Applicants respectfully disagree.

Col. 7, lines 61-67 of Dahlman states, "[a]ccording to exemplary embodiments of the present invention, this is achieved by using additional spreading codes to transmit a frame of data. This results in coded information which is compressed into a portion of a frame, leaving a residual, idle interval in which no power is transmitted, as shown in FIG. 3B (emphasis added). This is referred to herein as "compressed mode transmission." Indisputably, Dahlman expressly teaches that there is no pilot signal used for transmission power control inserted in the idle interval.

Applicants respectfully note that the Dahlman approach of performing handover candidate evaluation within compressed mode transmission does not correspond to the mobile communication system of claim 1. The Examiner has overlooked the specific limitations relating to the claimed vacant period.

The Examiner also alleges that Dahlman teaches that a mobile station is free to scan for other base stations during the idle time of the base station that it is currently linked, citing to col. 8, line 66 – col. 9, line 11.

Col. 5, lines 26-29 of Dahlman states “[i]n the following, the term downlink, or forward link channel, refers to the radio transmission of information bearing signals from base stations 170a-n to mobile stations 120a-m.” Claim 1 recites that the insertion of the pilot signal, in a vacant period, to be used for a transmission power control occurs in a forward link.

Turning the Examiner’s attention back to col. 9, lines 1-16 of Dahlman, the mobile station performs measurements, during the idle part of the compressed mode frame, since during this time it is not required to listen to the base station to which it is currently linked. However, the (other) base stations that are transmitting to the mobile station, during the idle mode of the mobile station, are transmitting in the compressed mode transmission of FIG. 3B, where the transmission power occurs during the information (info) part of the frame. (Col 9, lines 63-67). Dahlman specifically discloses that during the idle part, which allegedly corresponds to the claimed vacant period, the power is turned off (emphasis added). (Col. 10, lines 1-6).

Applicants also note that the power control bits that are added to the encoded/interleaved frame in time multiplexer 260 (col. 6, lines 49-50) are not inserted into the idle period of the compressed mode transmission of FIG. 3B, but during the information (info) part of the frame.

For at least these reasons, Dahlman fails to teach or suggest the mobile communication system of claim 1. Accordingly, Applicants respectfully request that the rejection of claim 1 be

withdrawn. Claims 18-24 are patentable at least by virtue of their dependency, as well as reciting their own patentably distinct features.

The communication control method of claim 25 includes the providing a vacant period and inserting a pilot signal to be used for power control for a forward link in a vacant period. Dahlman fails to teach or suggest these aspects of method claim 25. Accordingly, Applicants respectfully request that the rejection of claim 25 be withdrawn. Method claims 42-48 should be patentable at least by virtue of their dependency, as well as reciting their own patentably distinct features.

The base station of claim 49 includes a transmission means for providing a vacant period and inserting a pilot signal, to be used for a transmission power control for a forward link, in the vacant period. Dahlman fails to teach or suggest these aspects of the base station of claim 49. Accordingly, Applicants respectfully request that the rejection of claim 49 be withdrawn. The base station of claims 66-71 should be patentable at least by virtue of their dependency, as well as reciting their own patentably distinct features.

The mobile station of claim 72 includes the claimed quality measuring means and the claimed transmitting means. Dahlman fails to teach or suggest these aspects of the mobile station of claim 72. Accordingly, Applicants respectfully request that the rejection of claim 72 be withdrawn.

The mobile station of claim 74 includes a means for receiving a first control signal transmitted in a vacant period and controlling a transmission power in a reverse link according to the first control signal that includes transmission power control information. Dahlman fails to

teach or suggest these aspects of the mobile station of claim 74. Accordingly, Applicants respectfully request that the rejection of claim 74 be withdrawn. Claims 88 and 91-95 should be patentable at least by virtue of their dependency, as well as reciting their own patentably distinct features.

The mobile station of claim 96 includes the claimed transmission control means and the claimed inserting means. Dahlman fails to teach or suggest these aspects of the mobile station of claim 96. Accordingly, Applicants respectfully request that the rejection of claim 96 be withdrawn. Claims 97 and 107-113 should be patentable at least by virtue of their dependency, as well as reciting their own patentably distinct features.

The communication control method of claim 114 includes the claimed providing a vacant period and the claimed inserting a first control signal, which includes transmission power control information for a reverse link, in the vacant period. Dahlman fails to teach or suggest these aspects of the communication control method of claim 114. Accordingly, Applicants respectfully request that the rejection of claim 114 be withdrawn. Claims 125-131 should be patentable at least by virtue of their dependency, as well as reciting their own patentably distinct features.

The base station of claim 132 includes a transmission control means for providing a vacant period and inserting a pilot signal, to be used for a transmission power control for a reverse link, in the vacant period. Dahlman fails to teach or suggest these aspects of the base station of claim 132. Accordingly, Applicants respectfully request that the rejection of claim 132

be withdrawn. Claims 143-148 should be patentable at least by virtue of their dependency, as well as reciting their own patentably distinct features.

Rejection of Claims 2, 26, 50, 97, 115 and 133

The Examiner has rejected claims 2, 26, 50, 97, 115 and 133 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dahlman, as applied to claims 1, 25, 49, 96, 114 and 132, and further in view of *newly cited* U.S. Patent No. 5,692,015 (hereinafter Higashi). Applicants respectfully traverse this rejection.

Higashi fails to cure the deficiencies of Dahlman with respect to the mobile communication system of claim 1. Higashi fails to teach or suggest inserting a pilot signal, in a vacant period, to be used for a transmission power control for a forward link. Dahlman and Higashi, individually or in combination, fail to render obvious claim 1. Claim 2 should be patentable at least by virtue of its dependency, as well as reciting its own patentably distinct features. Accordingly, Applicants respectfully request that the rejection of claim 2 be withdrawn.

Higashi fails to cure the deficiencies of Dahlman with respect to the communication control method of claim 25. Higashi fails to teach or suggest the claimed inserting a pilot signal, in a vacant period, to be used for a transmission power control for a forward link. Dahlman and Higashi, individually or in combination, fail to render obvious claim 25. Claim 26 should be patentable at least by virtue of its dependency, as well as reciting its own patentably distinct features. Accordingly, Applicants respectfully request that the rejection of claim 26 be withdrawn.

Higashi fails to cure the deficiencies of Dahlman with respect to the base station of claim 49. Higashi fails to teach or suggest the transmission control means for inserting a pilot signal, in a vacant period, to be used for a transmission power control for a forward link. Dahlman and Higashi, individually or in combination, fail to render obvious claim 49. Claim 50 should be patentable at least by virtue of its dependency, as well as reciting its own patentably distinct features. Accordingly, Applicants respectfully request that the rejection of claim 50 be withdrawn.

Higashi fails to cure the deficiencies of Dahlman with respect to the communication control method of claim 114. Higashi fails to teach or suggest the claimed inserting a pilot signal, in a vacant period, to be used for a transmission power control for a reverse link. Dahlman and Higashi, individually or in combination, fail to render obvious claim 114. Claim 115 should be patentable at least by virtue of its dependency, as well as reciting its own patentably distinct features. Accordingly, Applicants respectfully request that the rejection of claim 115 be withdrawn.

Higashi fails to cure the deficiencies of Dahlman with respect to the base station of claim 132. Higashi fails to teach or suggest the transmission control means for inserting a pilot signal, in a vacant period, to be used for a transmission power control for a reverse link. Dahlman and Higashi, individually or in combination, fail to render obvious claim 132. Claim 133 should be patentable at least by virtue of its dependency, as well as reciting its own patentably distinct features. Accordingly, Applicants respectfully request that the rejection of claim 133 be withdrawn.

Amendment Under 37 C.F.R § 1.116
U.S. Application No. 09/287,570

Attorney Docket No. Q53866
Art Unit 2666

Objection to Claim 3

Applicants amend claim 3, thereby remedying the informality noted by the Examiner.

New Claims 154-167

Applicants add new claims 154-167 to obtain a more varied scope of protection.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 14, 38, 62-63, 89-90, 106, 124 and 142 are canceled.

Claim is amended as follows:

1. (Twice Amended) A mobile communication system comprising:

transmission control means for providing a vacant period, in which no communication data is present, in one or more of communication frames, and inserting a first control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link in said vacant period.

3. (Twice Amended) A mobile communication system as set forth in claim 2, wherein said time interval of said first control signal inserted during said vacant period is set to be longer than a time interval of said first control signal in a communication mode where transmission data are present in said communication frame which does not include any vacant periods.

4. (Twice Amended) A mobile communication system as set forth in claim 1, wherein said transmission control means provides a vacant period from a timing immediately

after a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link.

6. (Twice Amended) A mobile communication system as set forth in claim 1, wherein said transmission control means transmits a third control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link immediately after end of said vacant period.

8. (Twice Amended) A mobile communication system as set forth in ~~claim 4~~ claim 1, wherein said transmission control means provides a vacant period from a timing immediately after a second control signal which includes a transmission power control information for a reverse pilot signal to be used for a transmission power control for a forward link.

9. (Twice Amended) A mobile communication system as set forth in ~~claim 6~~ claim 1, wherein said transmission control means transmits a third control signal which includes a transmission power control information for a reverse link immediately after end of said vacant period ~~pilot signal to be used for a transmission power control for a forward link.~~

15. (Twice Amended) A mobile communication system as set forth in claim 6, wherein said third control signal which includes ~~a pilot signal to be used for a transmission power control for a forward link and~~ a transmission power control information for a reverse link.

16. (Amended) A mobile communication system comprising:
transmission control means for providing a vacant period in which no communication data is present, in one or more of communication frames, from a timing immediately after a second control signal for maintaining a communication quality, and transmitting a third control signal for maintaining the communication quality immediately after end of said vacant period,
each of said second and third control signals being a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

17. (Amended) A mobile communication system comprising:
transmission control means for providing a vacant period in which no communication data is present, in one or more of communication frames, from a timing immediately after a second control signal for maintaining a communication quality, and transmitting a third control signal for maintaining the communication quality immediately after end of said vacant period,

said second control signal being a transmission power control for a reverse link and third control signal being a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

25. (Twice Amended) A communication control method comprising:

a step of providing a vacant period, in which no communication data is present, in one or more of communication frames, and

a step of inserting a first control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link in said vacant period, for transmission.

28. (Twice Amended) A communication control method as set forth in claim 25, wherein in said step of providing the vacant period, said vacant period is provided immediately after a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link.

30. (Twice Amended) A communication control method as set forth in claim 25, further comprising:

a step of transmitting wherein a third control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link ~~immediately after said vacant period.~~

32. (Twice Amended) A communication control method as set forth in ~~claim 28~~ claim 25, wherein said step of providing the vacant period, said vacant period is provided immediately after a second control signal which includes a pilot signal to be used for a transmission power control information for a forward reverse link.

33. (Twice Amended) A communication control method as set forth in ~~claim 30~~ claim 25, ~~wherein~~ further comprising:

a step of transmitting a said third control signal which includes a pilot signal to be used for a transmission power control information for a forward reverse link immediately after end of said vacant period.

39. (Twice Amended) A ~~mobile communication system~~ communication control method as set forth in claim 30, wherein said third control signal includes ~~a pilot signal to be used for a transmission power control information for a forward link and a transmission power control information for reverse link.~~

49. (Twice Amended) A base station in a mobile communication system, comprising:
transmission control means for providing a vacant period, in which no communication data is present, in one or more of communication frames, and inserting a first control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link in said vacant period.

52. (Twice Amended) A base station as set forth in claim 49, wherein said transmission control means provides a vacant period from a timing immediately after a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link.

54. (Twice Amended) A base station as set forth in claim 49, wherein said transmission control means transmits a third control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link immediately after end of said vacant period.

56. (Twice Amended) A base station as set forth in ~~claim 52~~ claim 49, ~~wherein said~~
transmission control means provides a vacant period from a timing immediately after a second

control signal which includes ~~a pilot signal to be used for a~~ transmission power control information for ~~a forward-reverse~~ link.

57. (Twice Amended) A base station as set forth in ~~claim 54~~ claim 49, wherein said transmission control means transmits a third control signal which includes ~~a pilot signal to be used for a~~ transmission power control information for ~~a forward-reverse~~ link immediately after end of said vacant period.

72. (Twice Amended) A mobile station in a mobile communication system, comprising:

quality measuring means for receiving a first control signal for maintaining a communication quality transmitted in a vacant period in which no communication data is present, in one or more of communication frames and measuring a reception quality on the basis of said first control signal; and

transmitting means for generating and transmitting a transmission power control information for a forward link according to said reception quality, wherein said first control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

73. (Twice Amended) A mobile station in a mobile communication system, comprising:

demodulation means for receiving a first control signal for maintaining a communication quality transmitted in a vacant period in which no communication data is present, in one or more of communication frames and demodulating a communication data using the first control signal,

wherein said first control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link..

75 (Twice Amended) A mobile station in a mobile communication system, comprising:

quality measuring means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and measuring a reception quality on the basis of said second control signal; and

transmitting means for generating and transmitting a transmission power control information for a forward link according to said reception quality,

wherein said second control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

76. (Amended) A mobile station in a mobile communication system, comprising:

demodulation means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and demodulating a communication data using said second control signal,

wherein said second control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

78. (Twice Amended) A mobile station in a mobile communication system, comprising:

quality measuring means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and receiving a third control signal for maintaining the communication quality transmitted at a timing immediately after said vacant period, and measuring a reception quality on the basis of said second or third control signal; and

transmitting means for generating and transmitting a transmission power control information for a forward link according to said reception quality,

wherein said second control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

79. (Twice Amended) A mobile station in a mobile communication system, comprising:

demodulation means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and receiving a third control signal for maintaining the communication quality transmitted at a timing immediately after said vacant period, and demodulating a communication data using said second or third control signal,

wherein said second control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

80. (Twice Amended) A mobile station in a mobile communication system, comprising:

quality measuring means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and receiving a third control signal for maintaining the communication quality transmitted at a timing immediately after said vacant period, and measuring a reception quality on the basis of said third control signal;

transmitting means for generating and transmitting a transmission power control information for a forward link according to said reception quality; and

means for controlling a transmission power in a reverse link on the basis of said second control signal,

wherein said third control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

81. (Twice Amended) A mobile station in a mobile communication system, comprising:

demodulation means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and receiving a third control signal for maintaining the communication quality transmitted at a timing immediately after said vacant period, and demodulating a communication data using said third control signal; and

means for controlling a transmission power in a reverse link on the basis of said second control signal,

wherein said third control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

82. (Twice Amended) A mobile station in a mobile communication system, comprising:

demodulation means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and receiving a third control signal for maintaining the communication quality transmitted at a timing immediately after said vacant period, and demodulating a communication data using said third control signal;

quality measuring means for measuring a reception quality on the basis of said third control signal;

transmitting means for generating and transmitting a transmission power control information in a forward link according to the reception quality; and

means for controlling a transmission power in a reverse link on the basis of said second control signal,

wherein said third control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

88. (Twice Amended) A mobile station as set forth in claim 72, wherein said first control signal includes a pilot signal to be used for a transmission power control ~~information~~ for reverse link.

100. (Amended) A mobile communication system as set forth in claim 96, wherein said transmission control means transmits a third control signal which includes a pilot signal to

be used for at least one of demodulation of the communication data ~~or~~ and transmission power control for a forward link immediately after end of said vacant period.

101. (Amended) A mobile communication system as set forth in ~~claim 99~~ claim 96, wherein said transmission control means provides a vacant period from a timing immediately after a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

102. (Amended) A mobile communication system as set forth in ~~claim 100~~ claim 96, wherein said transmission control means transmits a third control signal which includes a pilot signal to be used for demodulation of the communication data or a transmission power control information for a forward-reverse link immediately after end of said vacant period.

103. (Amended) A mobile communication system as set forth in claim 99, wherein said second control signal includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control information for reverse-a forward link.

105. (Amended) A mobile communication system as set forth in ~~claim 99~~ claim 96, wherein said transmission control means provides a vacant period from a timing immediately after a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data or and a transmission power control for a forward link, and transmits a third control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control information for reverse-a forward link immediately after end of said vacant period.

118. (Amended) A communication control method as set forth in claim 114, ~~wherein~~ further comprising:

transmitting a third control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control for a forward link immediately after end of said vacant period.

119. (Amended) A communication control method as set forth in ~~claim 117~~ claim 114, wherein in said providing the vacant period, said vacant period is provided immediately after said a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data or and a transmission power control for a forward link.

120. (Amended) A communication control method as set forth in ~~claim 118~~ claim 114,
~~wherein~~ further comprising:

transmitting said a third control signal which includes a pilot signal to be used for
demodulation of the communication data or a transmission power control information for a
forward reverse link immediately after end of said vacant period.

121. (Amended) A communication control method as set forth in claim 117, wherein
said second control signal which includes a pilot signal to be used for at least one of
demodulation of the communication data and a transmission power control information for
reverse a forward link.

123. (Amended) A communication control method as set forth in ~~claim 117~~ claim 114,
~~wherein~~ further comprising:

transmitting a third control signal which includes a pilot signal to be used for at least one
of demodulation of the communication data and a transmission power control for a forward link
immediately after end of said vacant period,

wherein in said providing the vacant period, said vacant period is provided immediately
after said a second control signal which includes a pilot signal to be used for at least one of

demodulation of the communication data ~~or~~ and a transmission power control for a forward link
~~and a transmission power control information for reverse link.~~

136. (Amended) A base station as set forth in claim 132, wherein said transmission control means transmits a third control signal which includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and transmission power control for a forward link immediately after end of said vacant period.

137. (Amended) A base station as set forth in ~~claim 135~~ claim 132, wherein said transmission control means provides said vacant period from a timing immediately after a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

138. (Amended) A base station as set forth in ~~claim 136~~ claim 132, wherein said transmission control means transmits a third control signal which includes ~~a pilot signal to be used for demodulation of the communication data or~~ a transmission power control information for a ~~forward~~ reverse link immediately after end of said vacant period.

139. (Amended) A base station as set forth in claim 135, wherein said second control signal includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control information for reverse-a forward link.

141. (Amended) A base station as set forth in ~~claim 135~~ claim 132, wherein said transmission control means provides said vacant period from a timing immediately after a second control signal which includes a pilot signal to be used for at least one of demodulation of the communication data ~~or and~~ a transmission power control for a forward link, and transmits a third control signal which includes a pilot signal to be used for at least one of demodulation of the communication data and a transmission power control information for reverse-a forward link immediately after end of said vacant period.

149. (Amended) A mobile station in a mobile communication system, comprising:
quality measuring means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and receiving a third control signal for maintaining the communication quality transmitted at a timing immediately after said vacant period, and measuring a reception quality on the basis of said second or third control signal; and

transmitting means for generating and transmitting a transmission power control information for a forward link according to said reception quality,

wherein said third control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

150. (Amended) A mobile station in a mobile communication system, comprising:

demodulation means for receiving a second control signal for maintaining a communication quality transmitted at a timing immediately before a vacant period in which no communication data is present, in one or more of communication frames and receiving a third control signal for maintaining the communication quality transmitted at a timing immediately after said vacant period, and demodulating a communication data using said second or third control signal,

wherein said third control signal includes a pilot signal to be used for at least one of demodulation of the communication data ~~or~~ and a transmission power control for a forward link.

Claims 154-167 are added as new claims.